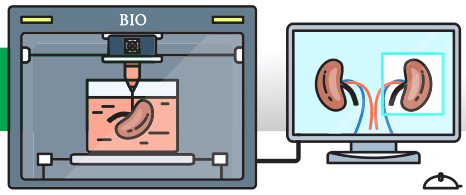
The Next Generation of Research

Human-relevant approaches for better science and better health

Modern Scientific Approaches:



In Silico:

Computer-based techniques that simulate human biology and the progression of diseases or predict drug metabolism and distribution in the body.

Imaging:

Advanced tools for seeing inside the human body, even to the level of a single neuron, to help study conditions like neurological disorders and observe drug effects.

Microdosing:

Highly controlled human trials that administer small, subtherapeutic doses to understand how a drug moves and metabolizes inside the body.

3-D Bioprinting:

A combination of cells, growth factors, and biomaterials printed layer upon-layer with precise 3-D construction that imitates natural tissue characteristics. Printed organs are used for chemical testing, medical research, and drug safety. Expected to revolutionize medicine and even organs for transplant.

Tissue-on-a-Chip:

A fusion of engineering and advanced biology – silicone chips are lined with human cells that mimic the structure and function of human organs and organ systems. Used for disease modeling, personalized medicine, and drug testing.

ERA21 Early-Career Researchers Advancing 21st Century Science

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